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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,164	09/27/2004	Derek W. Mackney	3076R-01	5093

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Lubrizol Corporation
Patent Administrator
Mail Drop 022B
29400 Lakeland Boulevard
Wickliffe, OH 44092-2298

EXAMINER

MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
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1771

MAIL DATE	DELIVERY MODE
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10/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,164	Applicant(s) MACKNEY ET AL.	
	Examiner Ellen M. McAvoy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,8,10,12-14 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,8,10,12-14 and 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 8, 10, 12-14 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez et al (5,792,730) in combination with Nakazato et al (6,569,818).

Gutierrez et al ["Gutierrez"] discloses succinimide dispersants and derivatives thereof as additives in fuel and lubricating oil compositions (COL.1, L11-25) to prevent and control engine deposits. The succinimides are prepared from a functionalized polymer which may be a polyisobutenyl succinic anhydride (PIBSA) which is a reaction product of polyisobutene and maleic anhydride, and a heavy polyamine. Gutierrez teaches that the polymer backbone has a number average molecular weight of greater than 300, most preferably in the range of 1000 to 3000. COL.3, L48-60. Gutierrez teaches that the preferred hydrocarbons or polymers used in the succinimides include polymers containing a high degree of terminal ethylidene unsaturation. COL.4, L5-40. Gutierrez teaches that such compounds may be prepared by reacting with heavy polyamines which are defined as a mixture of higher oligomers of polyalkylene, e.g., polyethylene amines containing primarily oligomers with more than 6 nitrogens and more branching than conventional polyamine mixtures. COL.2,L43-53. The examiner is of the position that the succinimide component of Gutierrez meets the limitation of component (A)(iv) of the claims. Gutierrez additionally allows for the addition of conventional additives to the composition including other dispersants/detergents COL.15,L10-40. Applicants' invention

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differs in independent claim 1 by requiring that the engine have an exhaust treatment device, and that the lubricating oil circulated within the engine have all of the properties of low phosphorus, low sulfur and low sulfated ash content; and in dependent claim 12 that the fuel in the fuel composition have a sulfur content below about 80 ppm by weight. However, as evidenced by Nakazato et al, ["Nakazato"], such characteristics are well-known in the art.

Nakazato discloses a lubricating oil composition suitable for use in internal combustion engines, such as diesel engines and gasoline engines, wherein the composition has a sulfur content of 0.01 to 0.3 wt.%, a phosphorus content of 0.01 to 0.1 wt.%, and giving a sulfated ash content in the range of 0.1 to 1 wt.%. Nakazato also discloses that the lubricating oil composition may be used in motor vehicles using low sulfur hydrocarbon fuels (0.01 wt.% or less), particularly diesel engine-mounted vehicles to which exhaust gas-cleaning devices containing particulate filters are attached. See column 3, lines 42-60. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have followed the teachings of the art and to have used the composition of Gutierrez in combination with the low phosphorus content, low sulfur content and low sulfated ash content lubricating oil composition of Nakazato if the known imparted properties were so desired. The examiner is of the position that the combination of familiar elements according to known methods is likely obvious when the combination does no more than yield predictable results. *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395. And the examiner is of the position that all that is required for obviousness under 35 U.S.C. §103 is a reasonable expectation of success. *O'Farrell*, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Response to Arguments

In response applicants amended independent claim 1 to delete component (A)(i) from the composition which was taught by Cherpeck (5,916,825) as set forth in the previous office action. However, a new reference to Gutierrez has been added to teach that dispersant component (A)(iv) is well known in the art of additives to lubricant and fuel compositions

Claim Rejections - 35 USC § 103

Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez et al (5,792,730) in combination with Nakazato et al (6,569,818), in further combination with Moreton et al (6,514,297) and Pierce-Ruhland et al (5,407,453).

Gutierrez in combination with Nakazato is relied on as outlined above.

Moreton et al [“Moreton”] disclose a detergent suitable for use in hydrocarbon fuels, such as gasoline fuels and diesel fuels, comprising mixing (1) a Mannich reaction product made by reacting a polyisobutene phenol, an aldehyde, and ethylene diamine, and (2) a compound selected from alkylbenzene sulfonic acid, alkyl naphthalene sulfonic acids, acetylacetone and mixtures thereof. The examiner is of the position that the Mannich products of Moreton meet the limitations of the detergent additive of dependent claim 18 when it is component (C), a Mannich reaction product of a hydrocarbyl-substituted hydroxy-containing aromatic compound, an aldehyde and an amine. Moreton also allows for the addition of dispersants to the fuel compositions including a PIB (polyisobutylene) polyamines which still meets the limitation of component (B)(i) and (D) of the claims. Pierce-Ruhland is added to teach that hydrocarbyl-substituted amine detergents may be prepared by the reaction product of a chlorinated

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polyisobutylene, a polyamine and a base. Applicants teach in the specification on page 9 that Pierce-Ruhland meets the limitations of the claims for component (B)(i).

Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have added conventional fuel additives to the fuel composition of Gutierrez if their known imparted properties were so desired.

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner
Art Unit 1797

EMcAvoy
October 5, 2010